

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY

INTER-OFFICE CORRESPONDENCE

RECEIVED
SURVEILLANCE SECTION

AUG 15 1973

DATE: June 20, 1973

MEMO TO: Division of Water Pollution Control - Surveillance Section

FROM: Calvin Locker, Sanitarian, Wabash Sub-Unit, Surveillance Section, DWPC

SUBJECT: CRAWFORD COUNTY - Briggs Manufacturing
Waste Treatment Facilities

ENVIRONMENTAL PROTECTION AGENCY
STATE OF ILLINOIS

On June 20, 1973, this writer conducted an inspection of the Briggs Manufacturing waste treatment facilities. During the inspection, the following people were interviewed: Mr. J. B. Harper, Plant Manager; Mr. John Moore, Manager of Engineering; and Mr. Jim Thorne, Ceramic Engineer.

The treatment facilities consist of two Walker Process settling tanks, two sludge lagoons and two 150 gpm pumps. The treated effluent is discharged to Sugar Creek.

The raw wastewater is pumped to the settling tanks (55,000-gallon capacity), where alum is added to aid in the settling process. The material is allowed to settle for 3-4 hours, at which time the supernatant is discharged to Sugar Creek and the sludge material is pumped to the lagoon, where it is allowed to dewater.

Since one tank is treated each day, the average daily flow from the plant is approximately .05 MGD. It normally requires 5 hours for each tank to empty.

EPA Region 5 Records Ctr.



296438

EVERY INTER-OFFICE LETTER SHOULD HAVE ONLY ONE SUBJECT.
ALL LETTERS TO BE SIGNED . . . NO SALUTATION OR COMPLIMENTARY CLOSING NECESSARY.

Page #2. BRIGGS MANUFACTURING - Waste Treatment Facilities
Inspection Report

EFFLUENT QUALITY AND RECEIVING STREAM

Listed below are the tabulated lab results from the last 10 routine samples collected at Briggs:

<u>DATE</u>	<u>BOD (mg/l)</u>	<u>TSS (mg/l)</u>	<u>Zn (mg/l)</u>	<u>NH₄ (mg/l)</u>
8/10/72	1	3	2.7	0.0
8/30/72	8	5	3.4	0.1
9/14/72	3	6	1.3	0.1
10/19/72	4	0	3.3	---
10/12/72	2	24	2.0	0.1
11/14/72	-	8	.3	---
12/29/72	5	-	3.2	0.0
1/19/73	19	20	3.0	0.1
3/15/73	1	16	2.3	---
5/17/73	<u>-</u>	<u>13</u>	<u>7.5</u>	<u>---</u>
TOTALS	43	95	29.0	0.4
Averages	5.4	10.6	2.9	0.1

As these results indicate, zinc has been present in the effluent in fairly high amounts. Briggs tried extending the detention time, but this procedure did not appear to improve the effluent noticeably. On the subject visit, this writer sampled the discharge once each hour as well as collecting a composite sample. The results are shown below. Zinc was the only parameter tested.

Page #3. BRIGGS MANUFACTURING - Waste Treatment Facilities
Inspection Report

GRAB SAMPLES:

<u>Time Collected</u>	<u>Zinc (mg/l)</u>
11:20 a.m.	1.6
12:00 noon	1.9
1:00 p.m.	2.1
2:00 p.m.	1.7
3:00 p.m.	1.8

4 Hour Composite Sample = 1.5 mg/l

(sample collected for 2 minutes out of each 10 minutes period)

Since the above sampling was performed, Briggs Manufacturing has changed to a new type of glaze which has only a very negligible amount of zinc present. A follow-up visit will be conducted to check the results obtained by changing glaze materials.

During dry periods, Briggs' discharge makes up the total flow in the receiving stream. Therefore, their effluent will also have to meet the stream standards.

OPERATOR CERTIFICATION AND OPERATION REPORTS

Alrex Parkhill is a properly certified Class VII operator. They have recently obtained all of the necessary lab equipment needed to run their required tests. Mr. Thorne indicated that they were ready to start submitting operation reports.

Page #4. BRIGGS MANUFACTURING - Waste Treatment Facilities
Inspection Report

OPERATING PERMIT STATUS

Briggs submitted an application for an operating permit which was denied. The main reasons for denial were the presence of zinc in the effluent and their method of sludge disposal. Briggs was hauling their sludge to the Crawford County Landfill; however, this landfill is not permitted to accept the material. The closest acceptable landfill is in Olney which is approximately 45 miles away. Presently, Briggs is contemplating hauling their sludge to Indiana.

Calvin Locker

Calvin Locker, Sanitarian
Wabash Sub-Unit

CL:bh
7/27/73

cc: - K. L. Baumann, Supervisor
Ohio Basin Unit
Surveillance Section, WPC

SPECIAL ANALYSIS FORM

Time Collected 11:20 am Sub-Basin Wabash
 Date Collected 6-20-72 Collector Locker
 Facility Name: Briggs dfg Facility Number: 2148 File Town Robinson
 Stream Name(s) Wabash - Sugar CK Stream Code: B-1
 Source of Sample: (Exact Location) Discharge

Physical Observations, Remarks:

Flow	Field Dissolved Oxygen	Field pH	Field Temp.
<u>Arsenic</u>	<u>Coliform/100ml</u>	<u>BOD</u>	
<u>Barium</u>	<u>Fecal Coliform</u>	<u>COD</u>	
<u>Boron</u>	<u>100 ml</u>	<u>TS/EC</u>	
<u>Cadmium</u>	<u>Fecal Strep</u>	<u>Susp.Solids</u>	
<u>Copper</u>	<u>100 ml</u>	<u>Vol.Susp.Solids</u>	
<u>Chromium (tri)</u>	<u>Algae (Total)</u>	<u>pH</u>	
<u>Chromium (hex)</u>	<u>Ammonia (N)</u>	<u>Turbidity (JTU)</u>	
<u>Iron (Total)</u>	<u>Organic Nitrogen (N)</u>	<u>Hardness</u>	
<u>Iron (Dissolved)</u>	<u>Nitrate + Nitrite(N)</u>	<u>Alkalinity</u>	
<u>Lead</u>	<u>Phosphorus (P)</u>	<u>Total Acidity</u>	
<u>Manganese</u>	<u>Chloride</u>	<u>Free Acidity</u>	
<u>Mercury</u>	<u>Fluoride</u>	<u>Oil</u>	
<u>Nickel</u>	<u>Sulfate</u>	<u>Other (Specify)</u>	
<u>Selenium</u>	<u>Cyanide</u>		
<u>Silver</u>	<u>MBAS</u>		
	<u>Phenol (ppb)</u>		

Transported by: CL
 Received by: _____
 Transported by: _____
 Received by: _____

FOR LAB USE ONLY
 Lab Number P111625 Rec'd by Leifert
 Date sample rec'd: 6/20/73 Time: 5:30
 Date analysis completed: JUN 26 1973
 Date results forwarded: JUN 27 1973
 Total Tests requested: 1 Tests run: 1
 Lab Section: Chemical Supervision

1.6 Zinc

SPECIAL ANALYSIS FORM

Time Collected

12 N

Sub-Basin

Wabash

Date Collected

6-20-72

Collector

Locker

Facility Name:

Facility Number:

BRIGGS MFG

2142

File Town

Robinson

Stream Name(s)

Wabash-Sugar Ck

Stream Code:

BF

Source of Sample: (Exact Location)

Discharge

Physical Observations, Remarks:

Flow

Field Dissolved Oxygen

Field pH

Field Temp.

Arsenic

Coliform/100ml

BOD

Barium

Fecal Coliform

COD

100 ml

Boron

Fecal Strep

TS/EC

100 ml

Cadmium

Algae (Total)

Susp.Solids

Copper

Ammonia (N)

Vol.Susp.Solids

Chromium (tri)

Organic Nitrogen (N)

pH

Chromium (hex)

Nitrate + Nitrite(N)

Turbidity (JTU)

Iron (Total)

Phosphorus (P)

Hardness

Iron (Dissolved)

Chloride

Alkalinity

Lead

Fluoride

Total Acidity

Manganese

Sulfate

Free Acidity

Mercury

Cyanide

Oil

Nickel

MBAS

Other (Specify)

Selenium

Phenol (ppb)

Silver

1.9

Zinc

Transported by: CL

Received by:

Transported by:

Received by:

FOR LAB USE ONLY

Lab Number: B111626 Rec'd by: Kayhart

Date sample rec'd: JUN 20 1972 Time: 5:30

Date analysis completed: JUN 26 1973

Date results forwarded: JUN 27 1973

Total Tests requested: 1 Tests run:

Lab Section: Chem. Supervisor: [Signature]

SPECIAL ANALYSIS FORM

Time Collected 1:00 p Sub-Basin Wabash
 Date Collected 6-20-72 Collector Locker
 Facility Name: Briars Mfg Facility Number: 2148 File Town Robinson
 Stream Name(s) Wabash & Sugar Ck Stream Code: BE
 Source of Sample: (Exact Location) Discharge

Physical Observations, Remarks:

Flow	Field Dissolved Oxygen	Field pH	Field Temp.
<u>Arsenic</u>	<u>Coliform/100ml</u>	<u>BOD</u>	
<u>Barium</u>	<u>Fecal Coliform</u>	<u>COD</u>	
	<u>100 ml</u>		
<u>Boron</u>	<u>Fecal Strep</u>	<u>TS/EC</u>	
	<u>100 ml</u>		
<u>Cadmium</u>	<u>Algae (Total)</u>	<u>Susp.Solids</u>	
<u>Copper</u>	<u>Ammonia (N)</u>	<u>Vol.Susp.Solids</u>	
<u>Chromium (tri)</u>	<u>Organic Nitrogen (N)</u>	<u>pH</u>	
<u>Chromium (hex)</u>	<u>Nitrate + Nitrite(N)</u>	<u>Turbidity (JTU)</u>	
<u>Iron (Total)</u>	<u>Phosphorus (P)</u>	<u>Hardness</u>	
<u>Iron (Dissolved)</u>	<u>Chloride</u>	<u>Alkalinity</u>	
<u>Lead</u>	<u>Fluoride</u>	<u>Total Acidity</u>	
<u>Manganese</u>	<u>Sulfate</u>	<u>Free Acidity</u>	
<u>Mercury</u>	<u>Cyanide</u>	<u>Oil</u>	
<u>Nickel</u>	<u>MBAS</u>	<u>Other (Specify)</u>	
<u>Selenium</u>	<u>Phenol (ppb)</u>		
<u>Silver</u>			
<u>2.1 Zinc</u>			

Transported by: CC
 Received by: _____
 Transported by: _____
 Received by: _____

FOR LAB USE ONLY
 Lab Number B111627 Rec'd by: Leifer
 Date sample rec'd: JUN 20 1972 Re: 530
 Date analysis completed: JUN 26 1973
 Date results forwarded: JUN 27 1973
 Total Tests requested: 1 Tests run
 Lab Section: Chgo Supervisor: Leifer

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY--DIVISION OF WATER POLLUTION CONTROL

SPECIAL ANALYSIS FORM

Time Collected 2:00 P Sub-Basin Wabash
 Date Collected 6-20-72 Collector Locker
 Facility Name: BRIGGS MFG Facility Number: 2148 File Town Robinson
 Stream Name(s) Wabash - Sugar Ck Stream Code: BF
 Source of Sample: (Exact Location)

Discharge

Physical Observations, Remarks:

Flow	Field Dissolved Oxygen	Field pH	Field Temp.
<u> </u> Arsenic	<u> </u> Coliform/100ml	<u> </u> BOD	
<u> </u> Barium	<u> </u> Fecal Coliform	<u> </u> COD	
	<u> </u> 100 ml		
<u> </u> Boron	<u> </u> Fecal Strep	<u> </u> TS/EC	
	<u> </u> 100 ml		
<u> </u> Cadmium	<u> </u> Algae (Total)	<u> </u> Susp.Solids	
<u> </u> Copper	<u> </u> Ammonia (N)	<u> </u> Vol.Susp.Solids	
<u> </u> Chromium (tri)	<u> </u> Organic Nitrogen (N)	<u> </u> pH	
<u> </u> Chromium (hex)	<u> </u> Nitrate + Nitrite(N)	<u> </u> Turbidity (JTU)	
<u> </u> Iron (Total)	<u> </u> Phosphorus (P)	<u> </u> Hardness	
<u> </u> Iron (Dissolved)	<u> </u> Chloride	<u> </u> Alkalinity	
<u> </u> Lead	<u> </u> Fluoride	<u> </u> Total Acidity	
<u> </u> Manganese	<u> </u> Sulfate	<u> </u> Free Acidity	
<u> </u> Mercury	<u> </u> Cyanide	<u> </u> Oil	
<u> </u> Nickel	<u> </u> MBAS	<u> </u> Other (Specify)	
<u> </u> Selenium	<u> </u> Phenol (ppb)		

 Silver

1.7 Zinc

Transported by: <u>CL</u>
Received by: <u> </u>
Transported by: <u> </u>
Received by: <u> </u>

FOR LAB USE ONLY	
Lab Number: <u>B111628</u>	Date sample rec'd: <u>JUN 20 1972</u>
Date analysis completed: <u>JUN 26 1973</u>	Date results forwarded: <u>JUN 27 1973</u>
Total Tests requested: <u>1</u>	Tests run: <u> </u>
Lab Section: <u> </u> Supervisor: <u> </u>	

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY--DIVISION OF WATER POLLUTION CONTROL

SPECIAL ANALYSIS FORM

Time Collected 3:00 pm Sub-Basin Wabash
 Date Collected 6-20-72 Collector Locker
 Facility Name: Briggs Facility Number: 2148 File Town Robinson
 Stream Name(s) Wabash - Sugar Ck Stream Code: BF
 Source of Sample: (Exact Location) Discharge

Physical Observations, Remarks:

Flow	Field Dissolved Oxygen	Field pH	Field Temp.
_____ Arsenic	_____ Coliform/100ml	_____ BOD	
_____ Barium	_____ Fecal Coliform	_____ COD	
_____ Boron	_____ Fecal Strep	_____ TS/EC	
_____ Cadmium	_____ Algae (Total)	_____ Susp. Solids	
_____ Copper	_____ Ammonia (N)	_____ Vol. Susp. Solids	
_____ Chromium (tri)	_____ Organic Nitrogen (N)	_____ pH	
_____ Chromium (hex)	_____ Nitrate + Nitrite (N)	_____ Turbidity (JTU)	
_____ Iron (Total)	_____ Phosphorus (P)	_____ Hardness	
_____ Iron (Dissolved)	_____ Chloride	_____ Alkalinity	
_____ Lead	_____ Fluoride	_____ Total Acidity	
_____ Manganese	_____ Sulfate	_____ Free Acidity	
_____ Mercury	_____ Cyanide	_____ Oil	
_____ Nickel	_____ MBAS	_____ Other (Specify)	
_____ Selenium	_____ Phenol (ppb)		
_____ Silver			
<u>1.8</u> <u>Zinc</u>			

Transported by: <u>EC</u>
Received by: _____
Transported by: _____
Received by: _____

FOR LAB USE ONLY	
Lab Number: <u>E111629</u>	Rec'd by: <u>Senhart</u>
Date sample rec'd: <u>JUN 20 1972</u>	Date: <u>5 30</u>
Date analysis completed <u>JUN 26 1973</u>	
Date results forwarded: <u>JUN 27 1973</u>	
Total Tests requested: <u>1</u> Tests run: <u>1</u>	
Lab Section: <u>Water</u> Supervisor: <u>Senhart</u>	

SPECIAL ANALYSIS FORM

Time Collected 10:15a - 3:15p Sub-Basin Wabash
 Date Collected 6-20-77 Collector Locker
 Facility Name: BRIGGS MFG Facility Number: 1148 File Town Robinson
 Stream Name(s) Wabash - Sugar Crk Stream Code: BF
 Source of Sample: (Exact Location)

Discharge

Physical Observations, Remarks:

Clear - 4 Hr Composite

Flow	Field Dissolved Oxygen	Field pH	Field Temp.
_____ Arsenic	_____ Coliform/100ml	_____ BOD	
_____ Barium	_____ Fecal Coliform	_____ COD	
	100 ml		
_____ Boron	_____ Fecal Strep	_____ TS/EC	
	100 ml		
_____ Cadmium	_____ Algae (Total)	_____ Susp. Solids	
_____ Copper	_____ Ammonia (N)	_____ Vol. Susp. Solids	
_____ Chromium (tri)	_____ Organic Nitrogen (N)	_____ pH	
_____ Chromium (hex)	_____ Nitrate + Nitrite (N)	_____ Turbidity (JTU)	
_____ Iron (Total)	_____ Phosphorus (P)	_____ Hardness	
_____ Iron (Dissolved)	_____ Chloride	_____ Alkalinity	
_____ Lead	_____ Fluoride	_____ Total Acidity	
_____ Manganese	_____ Sulfate	_____ Free Acidity	
_____ Mercury	_____ Cyanide	_____ Oil	
_____ Nickel	_____ MBAS	_____ Other (Specify)	
_____ Selenium	_____ Phenol (ppb)		

Silver

1.5

Zinc

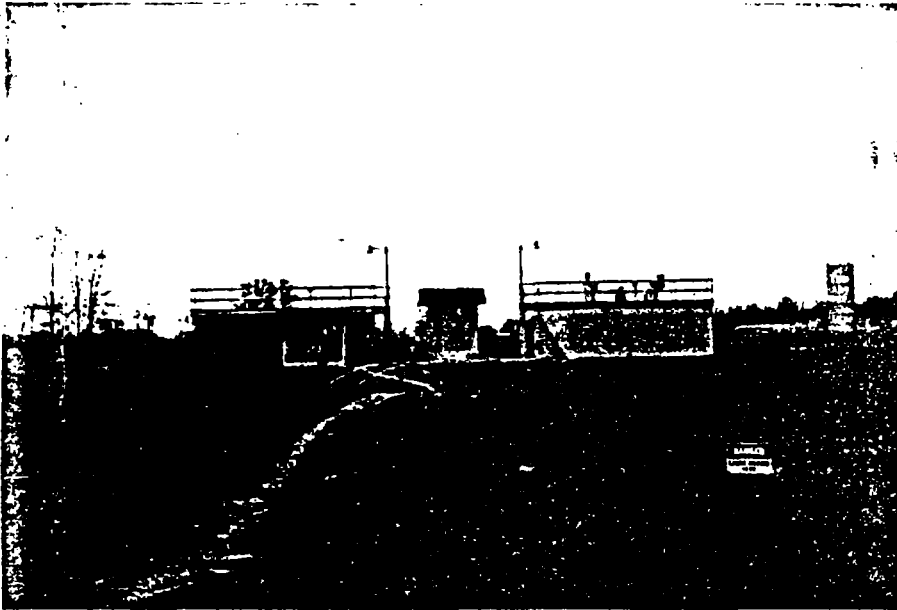
Transported by:	<u>CL</u>
Received by:	_____
Transported by:	_____
Received by:	_____

FOR LAB USE ONLY

Lab Number: 111531 Rec'd by: _____
 Date sample rec'd: JUN 20 1977 Time: 5:50
 Date analysis completed: JUN 23 1977
 Date results forwarded: JUN 27 1977
 Total Tests requested: 1 Tests run: 1
 Lab Section: Chemistry Supervisor: _____

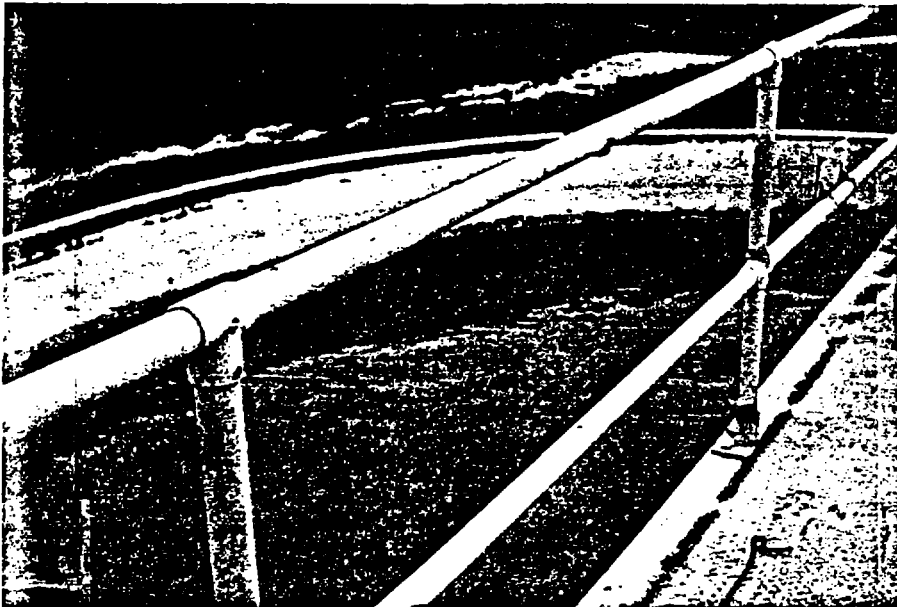
PICTURE #1

Treatment facilities at Briggs Mfg Co. Batch treatment (settling) given to app. 50,000 gpd. Small foot bridge in foreground crosses the receiving stream.



PICTURE #2

Appearance to Clarified water after 4 hrs. settling time.

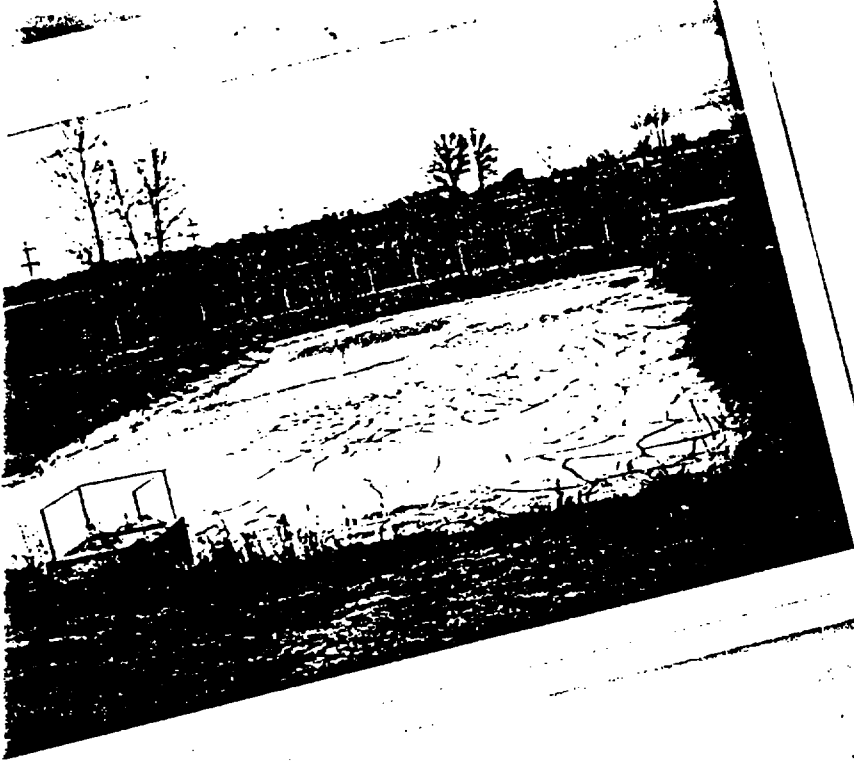


PICTURE #3

Sludge lagoon which receives wastewater while the batch treatment is taking place plus the sludge which settles out in the tanks during the treatment. Supernatant goes from here to the tanks for treatment.

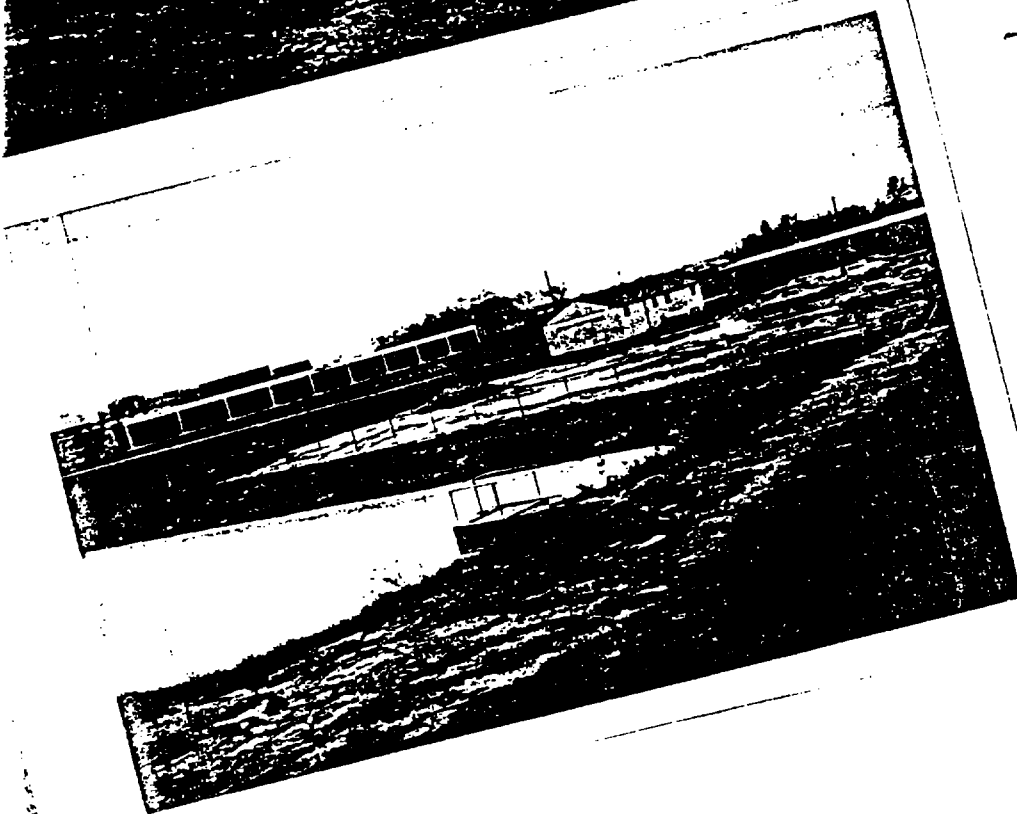


lagoon
accumulated
is now being
allowed to dry
out.



PICTURE #5

The "dried" sludge
is then piled on
one of their
parking lots for
further drying
before being hauled
to the Crawford Co.
landfill. The lagoon
in use and the
parking lot are
shown in this
picture.



PICTURE #6

Sludge on the
parking lot. Ponds
water is from
heavy rains in an
preceding this
inspection. Apparently
they need to stop
the lagoon out
operation before
adequate time
elapsed for drying.
No runoff was
observed despite
heavy rains.



Wabash Sugar Creek

ORIGINAL RESULTS TO: Wabash SUB-BASIN OFFICE ☐ PERFORMANCE MEASUREMENT SECTION, SPRINGFIELD SEND COPY OF EOP SERVICES RESULTS TO: ☒ SECTION, SPRINGFIELD

COL. 1	CARD NO. 1	CARD COL. 1	CARD NO. 2	CARD COL. 2	CARD NO. 3
<u>BE</u>	BASIN CODE	<u>04</u>	PLANT OR STATION NO.	<u>033</u>	FIPS COUNTY CODE (USE ONLY FOR PLANTS)

LAB ID NO.	LAB ID NO.	LAB ID NO.
<u>B104071</u>	<u>B104071</u>	<u>B104071</u>

SAMPLE TYPE CODE (SEE LIST BELOW)	SAMPLE TYPE CODE	SAMPLE TYPE CODE
<u>E</u>	<u>E</u>	<u>E</u>

12 YEAR
11 MONTH
14 DAY
01 HOUR (NEAREST)
P TIME OF DAY (A,P,N)
 WATER TEMPERATURE (DEG. F.)
 FIELD D.O.

(UNITS) 0.72
 PHOSPHORUS 18
 NITROGEN 18
 AMMONIA 18
 NITRATE + NITRITE AS N 18
 NITRIC N 18
 NITRAL N 18
 S.I.E.C. 0400
 TOTAL SUSP. SOLIDS 0008

SAMPLE TYPE CODES:
 A = DOMESTIC WASTE ONLY
 E = INDUSTRIAL WASTE ONLY
 I = MIXED DOMESTIC & INDUSTRIAL WASTE
 S = STREAM, LAKE, OR RECEIVING WATER QUALITY
 T = MINE DRAINAGE OR WASTE
 X = OTHER OR TYPE UNKNOWN

ARSENIC
 BARIUM 015
 BORON
 CADMIUM
 CHROMIUM (HEX)
 CHROMIUM (TRI)
 CHROMIUM (TOTAL)
 COPPER
 CYANIDE
 IRON (TOTAL)
 IRON (DISSOLVED)
 LEAD 000
 MANGANESE
 MERCURY (MICROGM/L)
 NICKEL
 SELENIUM
 SILVER
 ZINC 03

PLANKTON (NO./ML)
 FLUORIDE
 CHLORIDE
 SULFATE AS SO4
 TOTAL SULFUR AS S
 OIL
 M.B.A.S.
 CARBON CHLOROFORM EXTRACT
 TURBIDITY (UNITS)
 RESIDUE ON EVAPORATION
 VOLATILE SUSP. SOLIDS
 COLOR (UNITS)
 HARDNESS
 ALKALINITY
 TOTAL ACIDITY
 FREE ACIDITY

ALL RESULTS EXPRESSED AS MG/L EXCEPT WHERE OTHERWISE STATED.
 PHYSICAL OBSERVATIONS & COMMENTS (ABNORMAL COLOR, ODOOR, FLOATING MATTER, OIL, SLUDGE, TURBIDITY, WEATHER, LOCATION OF SAMPLING POINT):
clear, batch dumping of ~ 50,000 gpd after increased settling period of 3 1/2 - 4 hrs to hopefully improve efficiency

SIGN BELOW FOR EFFLUENT SAMPLE
 IMPORTED BY Bachman
 RECEIVED BY
 IMPORTED BY
 RECEIVED BY

FOR LABORATORY USE ONLY
 SAMPLE RECEIVED BY J.S.
 DATE REC'D NOV 14 1972 TIME REC'D 7:00 P
 DATE ANALYSES COMPLETED NOV 27 1972
 DATE RESULTS FORWARDED NOV 29 1972
 TOTAL TESTS REQUESTED 7 TESTS RUN 7
 LAB SECTION Chlorine SUPERVISOR JES

Date Collected: 11/14/72

Collector: G. I. Bachman

CITY, STATE

FACILITY NUMBER:

FILE YORK:

BRIGGS MFG Co.

2148

Robinson (Crawford Co.)

FARM NAME(S)

Wabash ← Sugar Creek

STREAM CODE:

BF

PLACE OF SAMPLE: (Exact Location)

ditch near south end of property @ chain link fence and upstream of heated effluent (#2)

PHYSICAL OBSERVATIONS, REMARKS:

near headwaters of ditch; normally dry, but flowing because of heavy rain preceding day; light turbidity

Arsenic

0.0

Barium

Boron

Cadmium

Copper

Chromium (tri)

Chromium (hex)

Iron (Total)

Iron (Dissolved)

0.00

Lead

Manganese

Mercury

Nickel

Selenium

Silver

0.0

Zinc

Coliform/100ml

Fecal Coliform

/100ml

Fecal Strep

/100ml

Algae (Total)

Ammonia (N)

Organic Nitrogen(N)

Nitrate + Nitrite

Phosphorus (P)

Chloride

Fluoride

Sulfate

Cyanide

MBAS

Phenol

BOD

COD

TS/EC

Susp. Solids

Vol. Susp. Sol

pH

Turbidity

Hardness

Alkalinity

Total Acidity

Free Acidity

Oil

Other (Specify)

P-10°C

B104072

Transported by Bachman

Received by

Transported by

Received by

NOV 14 1972
NOV 15 1972
NOV 28 1972
7
Chapman

SPECIAL ANALYSIS FORM

Date Collected 12:50 PM Sub-Basin Wabash
 Date Collected 11/14/72 Collector G.T. Bachman
 Facility Name: BRIGGS MFG Co Facility Number: 2148 File Name: Robinson (Crawford Co.)
 Canal Name(s): wabash ← Sugar Creek Stream Code: BF

Place of Sample: (Exact Location) app 300' downstream of treated effluent at point where ditch becomes tiled and passes under the plant

Visual Observations, Remarks: light turbidity; sample also reflects any runoff from sludge which they spread in parking lot at NW corner of plant grounds #3

<u>0.0</u> Arsenic	<u> </u> Coliform/100ml	<u> </u> BOD
<u>0.0</u> Barium	<u> </u> Fecal Coliform /100ml	<u> </u> COD
<u> </u> Boron	<u> </u> Fecal Strep /100ml	<u> </u> TS/EC
<u> </u> Cadmium	<u> </u> Algae (Total)	<u> </u> Susp. Solids
<u> </u> Copper	<u> </u> Ammonia (N)	<u> </u> Vol. Susp. Sol
<u> </u> Chromium (tri)	<u> </u> Organic Nitrogen(N)	<u> </u> pH
<u> </u> Chromium (hex)	<u> </u> Nitrate + Nitrite	<u> </u> Turbidity
<u> </u> Iron (Total)	<u> </u> Phosphorus (P)	<u> </u> Hardness
<u> </u> Iron (Dissolved)	<u> </u> Chloride	<u> </u> Alkalinity
<u>0.00</u> Lead	<u> </u> Fluoride	<u> </u> Total Acidity
<u> </u> Manganese	<u> </u> Sulfate	<u> </u> Free Acidity
<u> </u> Mercury	<u> </u> Cyanide	<u> </u> Oil
<u> </u> Nickel	<u> </u> MBAS	<u> </u> Other (Specify)
<u> </u> Selenium	<u> </u> Phenol	
<u> </u> Silver		

0.05 Zinc

Transported by Bachman

Received by

Transported by

B104073
 Date sample received NOV 14 1972
 Date analyses completed NOV 28 1972
 Date results forwarded
 Total tests requested 7 Tests run
 Signature: